

The Washington BEACH Program: Bacteria Monitoring in Puget Sound and on the Washington Coast

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WASHINGTON BEACH PROGRAM

What is the BEACH Program?

The goal of the WA Beach Environmental Assessment, Communication, and Health (BEACH) Program is to reduce the risk of disease to people who play at marine beaches. The program tests heavily used beaches and notifies the public when there is an increased risk of illness from swimming. It is fully funded through the federal BEACH Act of 2000 which amends the Clean Water Act.

EPA Provides Funding



State Coordinates



Locals Implement



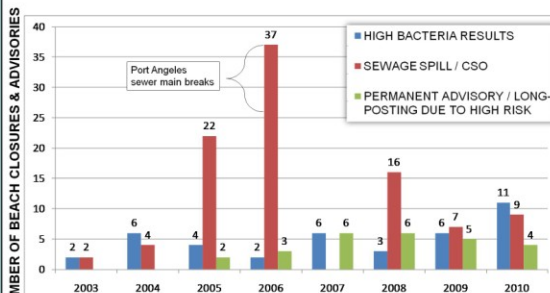
A Cooperative Project

The BEACH Program is managed by both the Washington State Departments of Ecology and Health. They work together with counties and tribes to design optimal sample plans for each county and tribal government. Some counties use volunteers and non-profit organizations such as the Surfrider Foundation and WSU Beach Watchers, while most counties use county staff to collect samples from the beaches.



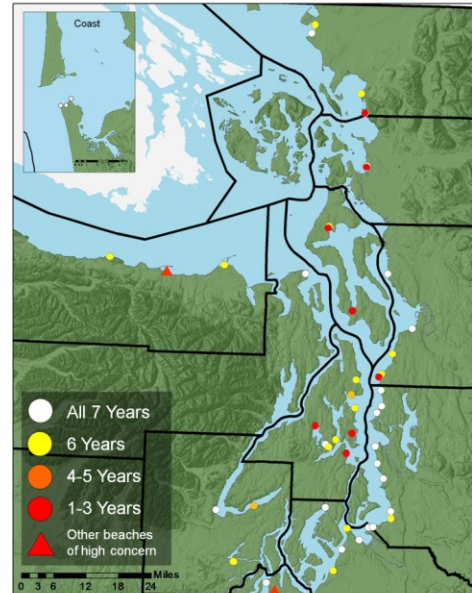
BEACH CLOSURES & ADVISORIES

In Washington State it is the Local County Health Officer who has the authority to determine if a beach is unsafe for human contact. How a county responds to high bacteria counts or sewage spills can vary county to county. The recommended protocol is shown on the far bottom right. Weekly sampling data more accurately depicts the health of our beaches.



CORE BEACHES

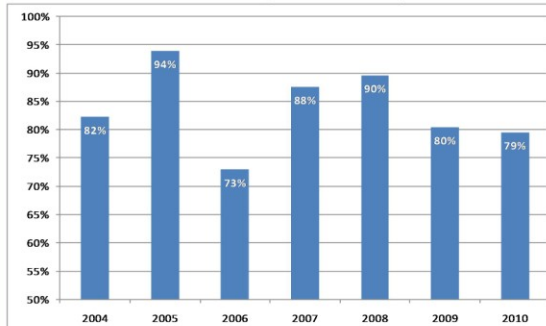
Core Beaches Meeting Water Quality Standards 2004-2010



Core Beaches with Chronic Bacteria Problems

- Bayview Boat Launch (Skagit)
- Eagle Harbor Waterfront Park (Kitsap)
- Freeland County Park (Island)
- Larrabee State Park (Whatcom)
- Edmonds Marina Dog Park Beach
- Windjammer Park (Island)
- Pomeroy Park, Manchester (Kitsap)
- Silverdale Waterfront Park (Kitsap)

Core Beaches Meeting Water Quality Standards



* Core swimming beaches meeting water quality standards (allowing one exception per swimming season) divided by the number of monitored core swimming beaches, shown as a percent.

HOW DOES WA DO IT?

How do we choose which beaches to monitor?

Washington has over 3,000 miles of coastline and over 1,200 public marine beaches. In the early years of the Program (2002-2003) a rating system was developed that prioritized beaches according to use and risk of fecal pollution. There are dozens of variables used in this system but a few are septic systems, combined sewer overflows (CSOs) and wastewater treatment plants size and proximity to the beach. What type of amenities a beach has also factors into its score because this is correlated with its use. From this process, a list of about 120 beaches were identified as priority. Every year we update this database with new information and any new beaches.

When and how much do we monitor?

We collect samples weekly throughout the summer (Memorial Day to Labor Day) at about 50-75 beaches each year. If funding permits we also try to sample our core coast beaches during the winter as they are popular surfing spots year-round. Early on we found that bacteria concentrations are highly variable spatially, even on a small beach. That is why every beach we monitor has three stations located across the beach. We then calculate an arithmetic average of the three stations and compare it to the 104 enterococci standard to determine if a beach might need to be posted with an advisory sign.

What are core beaches?

Core beaches are those that the BEACH Program has monitored nearly every year since 2004. There are 48 core beaches in Puget Sound and 3 core beaches on the coast. They are considered to be top priority based on the ranking system above. On the map to the left they are colored based on how many years the beach met standards out of the seven years the BEACH Program has monitored. The BEACH Program considers a beach to have "met" water quality standards for a year if one or no weekly sample results are above the 104 colonies/100mL standard for enterococcus. The beaches in red on the map are "repeat offenders" and many have clean-up or pollution identification actions underway.

Where do we want to improve?

Funding only covers monitoring and public notification. From our monitoring we have identified beaches that need pollution source identification and correction. Local governments often have little or no resources to do this at swimming beaches.

HOW DO WE DECIDE TO CLOSE A BEACH?

Why resample on moderately high results?

When we post a beach with a closure or advisory sign, we want the public to pay attention. We usually take another set of samples after we see moderately high counts to see if it was a short-lived spike in concentration. From our monitoring we see that it usually is; only 11% of "resamples" are over the 104 standard.

